IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Atul N. Hatalkar   Art Unit: 2155
Serial No.: 09/753,086   Examiner: Benjamin R. Bruckart
Filed: December 28, 2000   Conf. No.: 3517
Title: BROADCAST COMMUNICATION SYSTEM WITH DYNAMIC CLIENT-
              GROUP MEMBERSHIPS

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

BRIEF ON APPEAL

This Appeal Brief perfects the Notice of Appeal filed in

the U.S. Patent and Trademark Office on February 19, 2008.

(1) Real Party in Interest

Intel Corporation is the real party in interest.

(2) Related Appeals and Interferences

There are no known related appeals and/or interferences.

(3) Status of Claims

Claims 27-42 are pending.

Claims 27-42 are under consideration.

Claims 1-26 are canceled.

Claims 27-42 stand rejected.

Claim 27 and 36 are in independent form.

Claims 27 and 36 are involved directly in the appeal.

Claims 28-35 and 37-42 are not directly involved in the appeal but rather are involved only by virtue of their dependency from claims 27 and 36.

(4) **Status of Amendments**

A response pursuant to 37 C.F.R. § 1.116 was filed on January 16, 2008. An Advisory Action mailed February 4, 2008 indicated that the proposed amendments would be entered for purposes of appeal.

Accordingly, all claim amendments have been entered.

(5) **Summary of Claimed Subject Matter**

A broadcast communication system transmits television signals from a head end to set-top appliances connected to customers' televisions. *See, e.g., specification*, page 1, line 4-7. At any given time there may be many messages being transmitted over the system, many of which may not be intended for all of the client devices. *See, e.g., id.*, page 1, line 13-15. At a certain traffic level and demand for particular messages, individually addressing client-specific messages may be cumbersome and time-consuming for the host processor and reduce the available bandwidth in the communication link. *See, e.g., id.*, page 1, line 15-19.

The present inventors have described systems and techniques that address these and other issues, including:

Claim 27 which relates to a method that includes:

compiling a first map that associates identifiers of clients in a digital cable broadcast system with identifiers of groups of two or more clients in the digital cable broadcast system (see, e.g., id., page 6, line 15-20; page 7, line 1-7);

transmitting the first map to available clients in the digital cable broadcast system (see, e.g., id., page 7, line 8-9; page 8, line 17-page 9, line 5);

compiling a second map in which associations between subscriber identifiers and client group identifiers have been changed (see, e.g., id., page 9, line 15-page 10, line 4);

transmitting the second map to available clients in the digital cable broadcast system (see, e.g., id., page 10, line 4-5; page 8, line 17-page 9, line 5);

broadcasting digital cable content intended to be accessible only by a subset of available clients to all available clients in the digital cable broadcast system (see, e.g., id., page 2, line 16-22), wherein accessible content is content that is to be output to client displays (see, e.g., id., page 11, line 2-7), and wherein said broadcasting comprises

associating the digital cable content with a first identifier of a first group of two or more clients (*see, e.g., id.,* page 3, line 11-17; page 13, line 7-9) and

broadcasting the first identifier in association with the digital cable content (*see, e.g., id.,* page 13, line 9-12); and

configuring clients in the digital cable broadcast system to compare the first group identifier broadcast in association with the digital cable content with any group identifiers (*see, e.g., id.,* page 10, line 11-15) from a most recently received one of the first map and the second map that were associated with an identifier of the client (*see, e.g., id.,* page 8, line 13-16), to determine if the digital cable content is to be discarded at the client (*see, e.g., id.,* page 10, line 15-18; page 11, line 23-page 12, line 5), wherein discarded content is content that is not to be output to client displays (*see, e.g., id.,* page 10, line 18-page 11, line 7).

Claim 36, which relates to a broadcast system that includes:

a data transmission network (*see, e.g., id.,* page 2, line 4-5, line 14-18; page 3, line 6-7; page 14, line 16-22);

a head end (*see, e.g., id.*, page 1, line 2-7) comprising

a map that associates identifiers of clients in the broadcast system with identifiers of groups of two or more clients in the broadcast system (*see, e.g., id.*, page 6, line 15-page 7, line 7),

logic to associate content that is to be broadcast with an appropriate group identifier (*see, e.g., id.*, page 3, line 6-17), and

a transmitter to transmit the map (*see, e.g., id.*, page 7, line 8-9; page 8, line 17-20) and broadcast the content (*see, e.g., id.*, page 2, line 16-22) in association with the appropriate group identifier over the data transmission network (*see, e.g., id.*, page 3, line 6-17) even when the content is intended to be accessible only by a subset of available clients in the broadcast system , wherein accessible content is content that is to be output to a client display (*see, e.g., id.*, page 10, line 11-20; page 11, line 23-page 12, line 5); and

a collection of clients (*see, e.g., id.*, page 2, line 16-18), each client comprising

a receiver to receive the broadcast content in association with the appropriate group identifier and the map from the head end over the data transmission network (*see, e.g., id.,* page 7, line 15-19),

logic to identify one or more groups to which the client belongs from the received map (*see, e.g., id.,* page 8, line 3-11), and

logic to compare group identifiers associated with received broadcast content to group identifiers of any identified groups to determine if the broadcast content is accessible content that is to be output to a client display or inaccessible content that is not to be output to the client display (*see, e.g., id.,* page 10, line 11-20; page 11, line 23- page 12, line 5).

(6) Grounds of Rejection to be Reviewed on Appeal

As set forth in the following concise statements, the following grounds for rejection are presented for review on appeal:

Ground 1: Whether claims 27, 30-31, 36-37, 39, and 41 are properly rejected under 35 U.S.C. § 102(e) as anticipated by U.S. Patent No. 6,622,303 to Yamashita (hereinafter "Yamashita").

(7) Argument

The organization of the arguments presented hereinafter follows the organization of the ground for rejection to be reviewed on appeal set forth above. In particular, a separate boldfaced heading for each ground presented for review follows.

Ground 1: Rejections under 35 U.S.C. § 102(e) as anticipated by Yamashita

Claim 27 was rejected under 35 U.S.C. § 102(e) as anticipated by Yamashita.

The rejection of claim 27 contends that Yamashita transmits first and second maps that associate identifiers of clients in a digital cable broadcast system with identifiers of groups to the to available clients in the digital cable broadcast system, as recited in claim 27. Applicant respectfully disagrees.

In this regard, Yamashita describes a system for broadcasting programs. *See, e.g., Yamashita*, col. 1, line 8-12. Yamashita's system includes a digital satellite broadcast system 1, a satellite 4, and a digital CATV broadcast system 2 that cooperate to deliver video and audio signals to the receiving terminals of subscribers 3. *See, e.g., id.*, FIG. 1.

In addition to the video and audio signals, the transport stream in Yamashita's system includes additional information. *See, e.g., id.*, col. 4, line 1-2. Among other items, the additional information includes a Condition Access Table (CAT) and a Program Map Table (PMT). *See, e.g., id.*, col. 4, line 2-5. The condition access table (CAT) includes EMM (Entitlement Management Message) information. *See, e.g., id.*, col. 4, line 6-7. EMM information represents encrypted contract data for each subscriber. *See, e.g., id.*, col. 4, line 10-11. PMT includes components of each channel and ECM (Encryption Control Message) necessary for descrambling data. *See, e.g., id.*, col. 4, line 7-10. ECM information is an encrypted descramble key. *See, e.g., id.*, col. 4, line 12-13.

FIG. 2 is a schematic diagram of the EMM information and is now reproduced for the sake of convenience. *See, e.g., id.*, col. 3, line 28-29.

Fig. 2

◄────── INDIVIDUAL INFORMATION (EMM) ──────►	
IDENTIFICATION NUMBER (ID)	SUBSCRIBER CONTROL SIGNAL
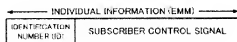
The EMM information is composed of a (single)
identification number and a (single) subscriber control signal.
See, e.g., id., col. 4, line 47-49. The identification number
is a unique number assigned to each subscriber. *See, e.g., id.*,
col. 4, line 49-52; line 53-56. The assigned unique
identification number is stored on an IC card at the
subscriber's terminal. *See, e.g., id.*, col. 4, line 56-57; col.
5, line 15-16, 31-32; col. 8, line 8-9. The assigned unique
identification number is used to determine whether subsequently
received EMM information is addressed to the subscriber's
terminal. *See, e.g., id.*, col. 5, line 16-22.

Such subsequently received EMM information can be used to
change the programs to which a subscriber has access. *See,
e.g., id.*, col. 5, line 42-54. In particular, as discussed
above, EMM information includes a subscriber control signal.
The subscriber control signal includes contract data. *See,
e.g., id.*, col. 5, line 23-25. Contract data corresponds to the
particular subscriber's contract information. *See, e.g., id.*,
col. 5, line 37-39. At the subscribers' terminals, descramble
keys are generated only when the contract data allows the
scrambled program to be descrambled. *See, e.g., id.*, col. 5,
line 26-40; col. 8, line 28-48.

The rejection of claim 27 is based on the contention that the recited "mappings are in [Yamashita's] EMM information." *See Advisory Action mailed February 4, 2008*, Continuation Sheet. Applicant respectfully disagrees. As discussed above, Yamashita's EMM information includes only a single identification number and a single subscriber control signal. *See, e.g., id.*, FIG. 2; col. 4, line 47-49.

Yamashita's EMM information is thus not a map that associates identifiers of clients with identifiers of groups of clients. Instead, Yamashita's EMM information is uniquely addressed to individual subscribers using a single unique identifier of that subscriber and includes contract information relevant only to the addressed individual subscriber. Each identification number in Yamashita's EMM information uniquely identifies a single receiving unit. Thus, Yamashita's EMM information does not include "identifiers," much less "identifiers of clients."

When this was pointed out in the responses filed October 10, 2007 and January 16, 2008, the Advisory Action mailed February 4, 2008 stated that "Yamashita [is interpreted to show] that there are many identifiers for each device, mapped to different control signal groups." *See Advisory Action mailed February 4, 2008*, Continuation Sheet.

Applicant submits that this interpretation is unreasonable

for several reasons. For example, Yamashita describes:

> "EMM information is composed of an identification
> number and a subscriber control signal. The
> identification number is a unique number assigned
> to each subscriber of the digital CATV broadcast
> system 2…" *See, e.g., Yamashita*, col. 4, line
> 47-51 (emphasis added).

As another example, Yamashita describes that, at set top

boxes 6:

> "[a] contract information storing portion 55A of
> an IC card stores a unique identification number
> of the subscriber. The information stored in the
> IC card 55 is supplied to the common/individual
> information analyzing portion 54. The
> common/individual information analyzing portion
> 54 compares the identification number of the
> received EMM information with the identification
> number stored in the IC card 55. When EMM
> information containing an identification number
> matching the identification number stored in the
> IC card 55 is received, the EMM information is
> treated as EMM information transmitted to the
> subscriber. Thus, the EMM information is sent to
> the IC card 55." *See, e.g., id.*, col. 8, line 8-
> 19 (emphasis added).

Yamashita is thus believed to make it clear that there is a

single unique identifier for each device that is both stored at

set top boxes 6 and found in EMM information. Applicant submits

that a single unique identifier for each device is not "many

identifiers" for each device.

The Advisory Action mailed February 4, 2008 also contends

that "[c]ol. 4, lines 57-col. 5, line 2 supports the idea that

this EMM signal is checked against two or more group numbers."

See Advisory Action mailed February 4, 2008, Continuation Sheet.

For the sake of convenience, this excerpt from Yamashita is

now reproduced.

> "When the digital CATV broadcast system 2 repeats
> a broadcast program transmitted from the digital
> satellite broadcast system 1 through the
> satellite 4, the digital CATV broadcast system 2
> converts the modulating method from QPSK to QAM.
> In addition, the digital CATV broadcast system 2
> determines whether or not the identification
> number of the EMM information matches one of
> identification numbers of the group used for the
> digital CATV broadcast system 2. When the
> identification number of the EMM information
> matches one of identification numbers of the
> group, the digital CATV broadcast system 2 causes
> the EMM information to pass." *See, e.g.,
> Yamashita*, col. 4, line 57-col. 5, line 2
> (emphasis added).

To begin with, this excerpt from Yamashita consistently

refers to "the group." Applicant submits that there is no

reason to believe that such a single group somehow has "two or

more group numbers," as contended by the Advisory Action.

Instead, the single group is understood to have multiple

identification numbers, each uniquely associated with a single

set top box 6.

The activities described in this excerpt all occur at Yamashita's "digital CATV broadcast system 2." As can be seen, e.g., in Yamashita's FIG. 1, digital CATV broadcast system 2 is separate from Yamashita's CATV receiving terminal 3 and set top box 6. *See, e.g., id.,* FIG. 1. Accordingly, this excerpt neither describes nor suggests transmitting the recited maps to clients in a digital cable broadcast system.

The Advisory Action mailed February 4, 2008 also contends that "the mapping between identifier information and the group information is clear by Yamashita's use of identification numbers with contract information (col. 7, lines 6-28)." *See Advisory Action mailed February 4, 2008,* Continuation Sheet.

For the sake of convenience, a portion of this excerpt from Yamashita is now reproduced.

> "When the CATV customer management system 27 receives the contract information, the CATV customer management system 27 assigns one of identification numbers of the digital CATV broadcast system identification number group to the person as a subscriber. <u>The CATV customer management system 27 transmits the contract information of the person to the subscriber information collection processing system 17 of the digital satellite broadcast system 1 through an information line 32. In addition, the CATV customer management system 27 sends one of identification numbers to the individual information filtering circuit 25.</u>

> An output signal of the individual information
> filtering circuit 25 is supplied to an individual
> information multiplexing circuit 26. The
> individual information multiplexing circuit 26
> adds EMM information that contains the assigned
> identification number and that is extracted by
> the individual information filtering circuit 25
> to the stream." *See, e.g., Yamashita*, col. 4,
> line 57-col. 5, line 2 (emphasis added).

Once again, the activities described in this excerpt occur

at Yamashita's "digital CATV broadcast system 2." *See, e.g.,*

id., col. 3, line 33-35; FIG. 4. As discussed above, digital

CATV broadcast system 2 is separate from Yamashita's CATV

receiving terminal 3 and set top box 6. *See, e.g., id.*, FIG. 1.

Thus, even if Yamashita's digital CATV broadcast system 2

did include "mapping between identifier information and the

group information" as contended by the Examiner, there is no

reason to believe that such a mapping is transmitted to

available clients in a digital cable broadcast system. Since

any such mapping is not transmitted to the clients, the clients

do not determine if the digital cable content is to be discarded

through comparisons with group identifiers from such a mapping.

In light of these comments, Applicant respectfully submits

that claim 27 is not anticipated by Yamashita. Applicant

respectfully requests that the rejections of claim 27, and the

claims dependent therefrom, be overturned.

Claim 36 was rejected under 35 U.S.C. § 102(e) as anticipated by Yamashita.

The rejection of claim 36 contends that Yamashita includes a head end that includes a transmitter to transmit a map that associates identifiers of clients in a digital cable broadcast system with identifiers of groups of two or more clients, as recited in claim 36. The rejection of claim 36 also contends that Yamashita describes logic to identify one or more groups to which the client belongs from such a map, as recited in claim 36.

Applicant respectfully disagrees. As discussed above, Yamashita's EMM information includes only a single identification number and a single subscriber control signal. Yamashita's EMM information thus is not a map that associates identifiers of clients with identifiers of groups of clients. Instead, Yamashita's EMM information is uniquely addressed to individual subscribers using a single identifier and includes information relevant only to the addressed individual subscriber.

Since Yamashita does not include a head end that includes a transmitter to transmit maps that associate identifiers of clients in a digital cable broadcast system with identifiers of groups, claim 36 is not anticipated by Yamashita.
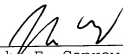
Also, since Yamashita's clients do not receive such maps,

Yamashita also neither describes nor suggests clients that

include logic to identify one or more groups to which the client

belongs from such a map, as recited in claim 36. Accordingly,

claim 36 is not anticipated by Yamashita on this basis as well.

Applicant respectfully requests that the rejections of

claim 36 and the claims dependent therefrom be withdrawn.

Please apply the Brief fee and one-month extension of time

fee and any other charges or credits to Deposit Account

No. 06-1050.

                                  Respectfully submitted,

Date: May 19, 2008
                                  John F. Conroy
                                  Reg. No. 45,485

Fish & Richardson P.C.
12390 El Camino Real
San Diego, California 92130
Telephone: (858) 678-5070
Facsimile: (877) 769-7945

JFC/jhg
10834184.doc

Appendix of Claims

Claims 1.-26. (Canceled)

27. A method comprising:

compiling a first map that associates identifiers of

clients in a digital cable broadcast system with identifiers of

groups of two or more clients in the digital cable broadcast

system;

transmitting the first map to available clients in the

digital cable broadcast system;

compiling a second map in which associations between

subscriber identifiers and client group identifiers have been

changed;

transmitting the second map to available clients in the

digital cable broadcast system;

broadcasting digital cable content intended to be

accessible only by a subset of available clients to all

available clients in the digital cable broadcast system, wherein

accessible content is content that is to be output to client

displays, and wherein said broadcasting comprises

associating the digital cable content with a first

identifier of a first group of two or more clients and

broadcasting the first identifier in association with the digital cable content; and

configuring clients in the digital cable broadcast system to compare the first group identifier broadcast in association with the digital cable content with any group identifiers from a most recently received one of the first map and the second map that were associated with an identifier of the client, to determine if the digital cable content is to be discarded at the client, wherein discarded content is content that is not to be output to client displays.

28. The method of claim 27, further comprising receiving a definition of a geographic group of two or more clients, wherein the clients in the geographic group are in a geographic area.

29. The method of claim 28, wherein broadcasting the digital cable content comprises broadcasting an advertisement in association with an identifier of the geographic group.

30. The method of claim 27, further comprising receiving a definition of a premium content group of two or more clients, wherein the clients in the premium content group pay for premium content.

31. The method of claim 30, wherein broadcasting the digital cable content comprises broadcasting premium content in association with an identifier of the premium content group.

32. The method of claim 27, further comprising receiving a definition of a child-containing household group of two or more clients, wherein the clients in the child-containing household group report children present in the household.

33. The method of claim 32, wherein broadcasting the digital cable content comprises broadcasting a catalog of toys in association with an identifier of the child-containing household group.

34. The method of claim 27, wherein compiling the second map comprises compiling the second map to associate identifiers of clients with an identifier of a new group that has been added since broadcast of the first map.

35. The method of claim 27, wherein compiling the second map comprises:

accessing a client profile database that includes information that profiles clients in the digital cable broadcast system; and

changing the associations between subscriber identifiers and client group identifiers based on the information included in the client profile database.

36.   (Currently Amended)   A broadcast system comprising:

a data transmission network;

a head end comprising

a map that associates identifiers of clients in the broadcast system with identifiers of groups of two or more clients in the broadcast system,

logic to associate content that is to be broadcast with an appropriate group identifier, and

a transmitter to transmit the map and broadcast the content in association with the appropriate group identifier over the data transmission network even when the content is intended to be accessible only by a subset of available clients in the broadcast system, wherein accessible content is content that is to be output to a client display; and

a collection of clients, each client comprising

a receiver to receive the broadcast content in association with the appropriate group identifier and the map from the head end over the data transmission network,

logic to identify one or more groups to which the client belongs from the received map, and

logic to compare group identifiers associated with received broadcast content to group identifiers of any identified groups to determine if the broadcast content is accessible content that is to be output to a client display or inaccessible content that is not to be output to the client display.

37. The broadcast system of claim 36, wherein the broadcast system comprises a digital cable broadcast system.

38. The broadcast system of claim 36, wherein the head end further comprises:

a client profile database that includes information that profiles clients in the broadcast system; and

logic to compile the map based on client profiles in the client profile database.

39. The broadcast system of claim 36, wherein the head end further comprises:

logic for changing the map associations between client identifiers and client group identifiers.

40.   The broadcast system of claim 36, wherein the map comprises a definition of a geographic group of two or more clients, wherein the clients in the geographic group are in a geographic area.

41.   The broadcast system of claim 36, wherein the map comprises a definition of a premium content group of two or more clients, wherein the clients in the premium content group pay for premium content.

42.   The broadcast system of claim 36, wherein the map comprises a definition of a child-containing household group of two or more clients, wherein the clients in the child-containing household group report children present in the household.

Evidence Appendix

None.

Related Proceedings Appendix

None.